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Draft report

Chapter II

Recommendations and decisions

B. Report of the Scientific and Technical Subcommittee on its fifty-first session

1. The Committee took note with appreciation of the report of the Scientific and Technical Subcommittee on its fifty-first session (A/AC.105/1065), which contained the results of its deliberations on the items considered by the Subcommittee in accordance with General Assembly resolution 68/75.

2. The Committee expressed its appreciation to Előd Both (Hungary) for his able leadership during the fifty-first session of the Subcommittee.

3. The representatives of Austria, Brazil, Canada, China, the Czech Republic, Germany, Italy, Japan, Pakistan, the Republic of Korea, the Russian Federation, the United States and Venezuela (Bolivarian Republic of) made statements under the item. A statement was also made by the representative of Chile on behalf of the Group of Latin American and Caribbean States. During the general exchange of views, statements relating to the item were also made by other member States.

4. The Committee heard the following presentations:

(a) "OPS-SAT: an advanced nanosatellite mission of the European Space Agency", by the representative of Austria;

(b) "China lunar exploration programme", by the representative of China;

(c) "The contributions of Chilean satellite Fasat-C to the development of Chile", by the representative of Chile;

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(d) "Technology for disaster management and humanitarian assistance", by the representative of Germany;

(e) "The Science Data Centre of the Italian Space Agency (ASI) as a modern multi-discipline data centre supporting long-experienced as well as emerging countries in the field of space science", by the representative of Italy;

(f) "New era of global monitoring by ALOS-2: Advanced Land Observing Satellite-2 DAICHI-2", by the representative of Japan.

1. United Nations Programme on Space Applications

(a) Activities of the United Nations Programme on Space Applications

5. The Committee took note of the discussion of the Subcommittee under the item on the United Nations Programme on Space Applications, as reflected in the report of the Subcommittee (A/AC.105/1065, paras. 33-56).

6. The Committee noted that the priority areas of the Programme were environmental monitoring, natural resource management, satellite communications for tele-education and telemedicine applications, disaster risk reduction, the use of global navigation satellite systems, the Basic Space Science Initiative, space law, climate change, the Basic Space Technology Initiative and the Human Space Technology Initiative.

7. The Committee took note of the activities of the Programme carried out in 2013, as presented in the report of the Subcommittee (A/AC.105/1065, paras. 40-45) and in the report of the Expert on Space Applications (A/AC.105/1062, annex I).

8. The Committee expressed its appreciation to the Office for Outer Space Affairs for the manner in which the activities of the Programme had been implemented. The Committee also expressed its appreciation to the Governments and intergovernmental and non-governmental organizations that had sponsored the activities.

9. The Committee noted with satisfaction that further progress was being made in the implementation of the activities of the Programme for 2014, as described in the report of the Subcommittee (A/AC.105/1065, para. 46).

10. The Committee also noted with satisfaction that the Office for Outer Space Affairs was helping developing countries and countries with economies in transition to participate in and benefit from activities being carried out under the Programme.

11. The Committee noted with concern the limited financial resources available to implement the Programme and appealed to States and organizations to continue supporting the Programme through voluntary contributions.

12. The Committee took note of the conference room papers "Basic Space Technology Initiative: activities in 2013-2014 and plans for 2015 and beyond" (A/AC.105/2014/CRP.6) and "Human Space Technology Initiative: activities in 2011-2013 and plans for 2014 and beyond" (A/AC.105/2013/CRP.16).

(i) Conferences, training courses and workshops of the United Nations Programme on Space Applications

13. The Committee endorsed the workshops, training courses, symposiums and expert meetings planned for the remainder of 2014 and expressed its appreciation to Austria, Canada, China, Ecuador, Mexico, Morocco and the Russian Federation, as well as the Abdus Salam International Centre for Theoretical Physics in Trieste, Italy, APSCO, IAF and the International Committee on Global Navigation Satellite Systems (ICG), for co-sponsoring and hosting those activities (see A/AC.105/1062, annex II).

14. The Committee endorsed the programme of workshops, training courses, symposiums and expert meetings relating to environmental monitoring, natural resource management, global health, global navigation satellite systems (GNSS), basic space science, basic space technology, climate change, human space technology and the socioeconomic benefits of space activities to be held in 2015 for the benefit of developing countries.

(ii) Long-term fellowships for in-depth training

15. The Committee expressed its appreciation to the Government of Italy, which, through the Politecnico di Torino and the Istituto Superiore Mario Boella and with the collaboration of the Istituto Elettrotecnico Nazionale Galileo Ferraris, had continued to provide fellowships for postgraduate studies on GNSS and related applications.

16. The Committee expressed its appreciation to the Government of Japan, which through the Kyushu Institute of Technology had continued to provide four doctoral and two master's degree fellowships under the United Nations/Japan Long-term Fellowship Programme on Nanosatellite Technologies.

17. The Committee expressed its appreciation to the Government of Germany, which, in collaboration with the Centre of Applied Space Technology and Microgravity and the German Aerospace Center (DLR), had introduced a new fellowship programme that provided a research team with the opportunity to conduct its own microgravity experiments at the Bremen Drop Tower in Germany.

18. The Committee noted with appreciation the successful launch of the Zero-Gravity Instrument Project as part of the Human Space Technology Initiative of the Programme. The Project contributed to capacity-building in education and research on microgravity, in particular in developing countries.

19. The Committee noted that it was important to increase opportunities for in-depth education in all areas of space science, technology and applications and space law through long-term fellowships and urged Member States to make such opportunities available at their relevant institutions.

(iii) Technical advisory services

20. The Committee noted with appreciation the technical advisory services provided under the United Nations Programme on Space Applications in support of activities and projects promoting regional cooperation in space applications, as referred to in the report of the Expert on Space Applications (A/AC.105/1062, paras. 38-46).

(iv) Regional centres for space science and technology education, affiliated to the United Nations

21. The Committee noted with satisfaction that the United Nations Programme on Space Applications continued to emphasize, promote and foster cooperation with Member States at the regional and global levels to support the regional centres for space science and technology education, affiliated to the United Nations. The highlights of the activities of the regional centres supported under the Programme in 2012-2014 were presented in the report of the Expert on Space Applications (A/AC.105/1062, annex III).

22. The Committee noted that a meeting of the directors of the Regional Centres for Space Science and Technology Education, affiliated to the United Nations, had been held on the margins of the current session of the Committee on 13 June 2014. The Committee noted that the meeting agreed to strengthen communication among the regional centres and between the regional centres and the Programme on Space Applications. The Committee also noted that the regional centres welcomed the newly developed education curricula on GNSS and space law and showed a strong interest in contributing to the development of a new curriculum related to basic space technology.

23. The Committee noted with appreciation that the host countries of the regional centres for space science and technology education, affiliated to the United Nations, in line with their obligations as host countries, were continuing to provide the centres with financial and in-kind support.

24. The Committee noted with concern the limited financial resources available to some of the regional centres and appealed to Member States and organizations in the regions where those centres were located to support the activities of the centres through financial and in-kind contributions.

25. The Committee welcomed the progress on the establishment of a new regional centre for space science and technology education in Asia and the Pacific, located at Beihang University in Beijing, following the positive conclusion of an evaluation mission to Beihang University in September 2013, facilitated by the Office for Outer Space Affairs.

(b) International Satellite System for Search and Rescue

26. The Committee noted with satisfaction that the International Satellite System for Search and Rescue (COSPAS-SARSAT) currently had 41 member States and two participating organizations and that there was additional interest in being associated with the programme. The Committee noted with appreciation that the worldwide coverage for emergency beacons had been made possible by the space segment, which consisted of six polar-orbiting and six geostationary satellites provided by Canada, France, India, the Russian Federation and the United States, along with the European Organization for the Exploitation of Meteorological Satellites (EUMETSAT), as well as by the ground-segment contributions made by 26 other countries. The Committee also noted that, since becoming operational in 1982, COSPAS-SARSAT had provided assistance in rescuing at least 37,000 persons in 10,400 search and rescue events and that in 2013 alert data from the system had helped to save 1,900 lives in 741 search and rescue events worldwide.

27. The Committee also noted that the use of satellites in medium Earth orbit continued to be explored, with a view to improving international satellite-aided search and rescue operations. The Committee welcomed the testing of global positioning system (GPS) satellites to improve the capabilities of beacons to best take advantage of medium-Earth orbit satellites.

28. The Committee further noted that the United States had initiated, together with other States, a development and evaluation phase for the use of Medium-Earth Orbit Search and Rescue (MEOSAR) in January 2013, using GPS satellites, as well as similar systems operated by cooperating States. The development and evaluation phase would help to characterize the operational readiness of the system and, when predefined criteria were met, would allow the new MEOSAR system to become operational.

2. Space technology for socioeconomic development in the context of the United Nations Conference on Sustainable Development and the post-2015 development agenda

29. The Committee took note of the discussion of the Subcommittee under the item on space technology for socioeconomic development in the context of the United Nations Conference on Sustainable Development and the post-2015 development agenda, as reflected in the report of the Subcommittee (A/AC.105/1065, paras. 57-67).

30. The Committee endorsed the recommendations and decisions on the item made by the Subcommittee and its Working Group of the Whole (A/AC.105/1065, para. 67, and annex I, paras. 3-6).

31. The Committee recalled that the General Assembly, in its resolution 68/75, had reiterated that the benefits of space technology and its applications should continue to be brought to the attention, in particular, of the major United Nations conferences and summits for economic, social and cultural development and related fields and that the use of space technology should be promoted in efforts towards achieving the objectives of those conferences and summits, including implementing the Millennium Declaration and contributing to the post-2015 development agenda process.

32. Recognizing the effective role of space science and technology and their applications for tele-health and tele-epidemiology, the Committee endorsed the recommendation of the Scientific and Technical Subcommittee at its fifty-first session to establish a focused expert group on space and global health to consider issues related to the use of space technology for public health (A/AC.105/1065, annex I, para. 6). The Committee agreed that the group should present, under the leadership of Canada, its method and programme of work, including a concrete timeline, to the Working Group of the Whole of the Subcommittee for its consideration at the next session of the Subcommittee, in 2015. The Committee noted that the expert group would be led by Dr. Pascal Michel of the Public Health Agency of Canada, and that no Secretariat services would be required for the focus expert group.

33. The Committee noted in this regard that the United Nations/IAF Workshop on Space Technology for Socioeconomic Benefits to be held in Toronto, Canada, from 26 to 28 September 2014 would focus on global health and maritime applications.

3. Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment

34. The Committee took note of the discussion of the Subcommittee under the item on matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment, as reflected in the report of the Subcommittee (A/AC.105/1065, paras. 68-80).

35. In the course of the discussion, delegations reviewed national and cooperative programmes on remote sensing. Examples were given of national, bilateral, regional and international programmes to further socioeconomic and sustainable development, notably in the following areas: agriculture and fishery; monitoring climate change; disaster management; hydrology and drought monitoring; managing ecosystems and natural resources; monitoring air and water quality; mapping biodiversity resources, coastal zones, land use, wasteland and wetlands; ice-cover monitoring; oceanography; rural development and urban planning; and safety and public health.

36. The Committee noted the important role played in promoting regional cooperation in the use of remote sensing technology by regional organizations such as APRSAF and its initiatives, the Sentinel Asia project and the Space Applications for Environment programme.

37. The Committee took note of the number of continued launches of Earth observation satellites and the innovative research conducted using such satellites, data that could be used to develop advanced, globally integrated Earth-system models.

38. The Committee noted with satisfaction that a growing number of developing countries had been actively developing and deploying their own remote sensing satellite systems and utilizing space-based data to advance socioeconomic development, and it stressed the need to continue enhancing the capacities of developing countries with regard to the use of remote sensing technology.

4. Space debris

39. The Committee took note of the discussion of the Subcommittee under the item on space debris, as reflected in the report of the Subcommittee (A/AC.105/1065, paras. 81-104).

40. The Committee endorsed the decisions and recommendations of the Subcommittee on the item (A/AC.105/1065, paras. 86 and 101-104).

41. The Committee noted with appreciation that some States were already implementing space debris mitigation measures consistent with the Space Debris Mitigation Guidelines of the Committee and/or the Inter-Agency Space Debris Coordination Committee (IADC) Space Debris Mitigation Guidelines and that other States had developed their own space debris mitigation standards based on those guidelines. The Committee also noted that other States were using the IADC Guidelines and the European Code of Conduct for Space Debris Mitigation as reference points in their regulatory frameworks for national space activities. The Committee further noted that other States had cooperated, in the framework of the ESA space situational awareness programme, to address the issue of space debris.

42. The Committee urged those countries that had not yet done so to consider voluntary implementation of the Space Debris Mitigation Guidelines of the Committee and/or the IADC Space Debris Mitigation Guidelines.

43. The Committee noted that the compendium of space debris mitigation standards adopted by States and international organizations, developed by Canada, the Czech Republic and Germany, would contribute to improving the knowledge on space debris mitigation standards and regulatory frameworks in this field.

44. The Committee noted the establishment of a space surveillance and tracking support framework by the European Union to support the networking and operations of space surveillance and tracking assets.

45. The Committee noted with satisfaction the dedicated research efforts among States to mitigate the effects of space debris.

46. Some delegations expressed the view that national and international efforts should be intensified to reduce the creation and proliferation of space debris.

47. Some delegations expressed the view that the issue of space debris should be addressed in a manner that would not jeopardize the development of the space capabilities of developing countries.

48. Some delegations called on the Subcommittee to continue its thorough consideration of the issue of space debris mitigation, in particular by paying greater attention to the problem of debris coming from platforms with nuclear power sources in outer space and to collisions of space objects with space debris and their derivatives, as well as to ways of improving the technology and the collaborative networks for monitoring space debris.

49. Some delegations expressed the view that the Scientific and Technical Subcommittee and the Legal Subcommittee should cooperate in developing legally binding rules relating to space debris.

50. Some delegations expressed the view that the mitigation of space debris and the limitation of its creation should be among the priorities of the Committee's work.

51. Some delegations expressed the view that it would be beneficial for member States to exchange information on measures to reduce the creation and proliferation of space debris and to mitigate its effects; on the collection, sharing and dissemination of data on space objects; and on re-entry notifications.

52. Some delegations expressed the view that the following information- and communication-related issues need to be addressed for space debris mitigation: the establishment of a common international practice of information exchange and a single space debris monitoring centre; the development of a universally recognized international database of all known space objects and a universally accepted standard for collision risk calculation; and greater cooperation between launching and space debris monitoring entities during the launching phase.

53. Some delegations expressed the view that States, especially those that were largely responsible for the situation with regard to space debris, and those that had the ability to take action for space debris mitigation, should disseminate information on actions taken to reduce the generation of space debris.

54. The view was expressed that States, especially those that were largely responsible for the situation with regard to space debris, should assist countries with emerging space capabilities in the implementation of space debris mitigation guidelines or standards through the provision of conjunction assessment risk analysis and space situational awareness systems.

55. The view was expressed that States, especially those that were largely responsible for the situation with regard to space debris, should assist developing countries by providing scientific and technological support, including the transfer of relevant technology without undue costs.

56. The view was expressed that the Space Debris Mitigation Guidelines of the Committee should be perfected in order to eliminate any ambiguity in their content that might allow countries to continue practices leading to the creation of space debris.

57. The view was expressed that States that have space objects should follow-up on and continuously monitor them.

5. Space-system-based disaster management support

58. The Committee took note of the discussion of the Subcommittee under the item on space-system-based disaster management support, as reflected in the report of the Subcommittee (A/AC.105/1065, paras. 105-125).

59. The Committee had before it conference room papers entitled "Report of the fifth meeting of the network of regional support Offices of the United Nations Platform for Space-based Information for Disaster Management and Emergency Response, 13 and 14 February 2014" (A/AC.105/2014/CRP.10) and "Workplan of the network of regional support offices of the United Nations Platform for Space-based Information for Disaster Management and Emergency Response for 2014 and 2015" (A/AC.105/2014/CRP.11). The Committee was informed about the increasing coordination among regional support offices and of their contributions to the programme of activities of the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER).

60. The Committee heard a statement by the UN-SPIDER coordinator of the Office for Outer Space Affairs and noted with satisfaction the voluntary contributions made by Member States, including the renewed commitment of cash contributions for 2015 from China and Germany, and encouraged Member States to provide, on a voluntary basis, all the support necessary, including financial support, to UN-SPIDER. The Committee noted with appreciation that the programme had also benefited from the services of associate experts and experts provided by Austria, China and Germany.

61. The Committee noted with satisfaction the ongoing activities of Member States that were contributing to increasing the availability and use of space-based solutions in support of disaster management, and also supporting the UN-SPIDER programme, including the following: the Sentinel Asia project and its coordination of emergency observation requests through the Asian Disaster Reduction Centre; the European Earth Observation Programme (Copernicus) emergency mapping service; and the Charter on Cooperation to Achieve the Coordinated Use of Space Facilities

in the Event of Natural or Technological Disasters (also called the International Charter on Space and Major Disasters).

62. The Committee noted that the information and services being delivered under the UN-SPIDER programme were making a valuable contribution to mitigating the consequences of natural disasters and called on member States to continue supporting the programme.

63. The Committee noted with satisfaction a high-level commitment to promote space-based data and products for sustainable development, as expressed in a statement by President Danilo Medina of the Dominican Republic at the sixth Summit of the Association of Caribbean States, held in Mexico in April 2014, which was made available to the Committee through a video provided by the Office for Outer Space Affairs.

6. Recent developments in global navigation satellite systems

64. The Committee took note of the discussion of the Subcommittee under the item on recent developments in GNSS, as reflected in the report of the Subcommittee (A/AC.105/1065, paras. 126-148).

65. The Committee noted with appreciation that ICG, established in 2005 under the umbrella of the United Nations, continued to make significant progress towards encouraging compatibility and interoperability among global and regional space-based positioning, navigation and timing systems and promoting the greater use of GNSS capabilities to support sustainable development, particularly taking into account the interests of developing nations.

66. The Committee expressed its appreciation to the Office for Outer Space Affairs for its continued support as executive secretariat for ICG and its Providers' Forum, and for the organization of workshops and training courses focusing on capacity-building in the use of GNSS-related technologies in various fields of science and industry, including on the subject of space weather effects in the ionosphere and their impact on positioning.

67. The Committee noted with appreciation that the eighth meeting of ICG and the eleventh meeting of its Providers' Forum had been held in Dubai, United Arab Emirates, from 9 to 14 November 2013, that the twelfth meeting of the Providers' Forum had been held in Vienna on 10 June 2014 and that the ninth meeting of ICG would be held in Prague from 10 to 14 November 2014. The Committee also noted the expression of interest by the United States in hosting the tenth meeting of ICG, in 2015.

68. The Committee noted that the United States met regularly with China, India, Japan, the Russian Federation and the European Union to discuss ways in which interoperability among GNSS providers could be enhanced and services for the global user community could be improved.

69. The Committee noted the efforts of the Russian Federation related to cooperation in the area of GNSS, including continued cooperation and coordination in achieving interoperability among GNSS providers for the benefit of all humankind.

70. The Committee also noted that an exhibit on the Russian Global Navigation Satellite System (GLONASS) was on display at the space exhibit of the Office for Outer Space Affairs during the current session of the Committee.

71. The Committee noted that the Galileo programme, Europe's initiative for a state-of-the-art GNSS, was intended to provide a highly accurate, guaranteed global positioning service under civilian control.

72. The Committee also noted that the European Union had adopted a new Regulation on the European GNSS programmes for the period 2014-2020. It was further noted that the satellite Astra 5B, which carried an L-band payload for the European Geostationary Navigation Overlay Service (EGNOS), had been successfully launched and that the launch of four satellites was planned for 2014.

73. The Committee noted that the Galileo satellite navigation system would allow improved services such as precise in-car navigation, effective road transport management, search and rescue services, secure banking transactions and reliable electricity supply. It was also noted that the GNSS Service Centre had been inaugurated in Madrid on 14 May 2013, which would allow users to be informed regularly of the status of the Galileo constellation.

74. The Committee noted that the BeiDou Navigation Satellite System had been widely used in transportation, tourism, education, training and system monitoring and evaluation, and that the new-generation navigation satellites were planned to be launched in 2015.

75. The Committee noted that the Indian Regional Navigation Satellite System (IRNSS) constellation was an independent regional navigation system being developed to provide information on positioning over the Indian region and that IRNSS-1A, the first satellite of the constellation, and IRNSS-1B, the second satellite, had been precisely placed into the intended orbit. It was also noted that ground stations required for the generation and transmission of navigation parameters had already been established in 15 locations across the country. The Committee further noted that the full constellation of seven satellites was planned to be completed by 2015.

7. Space weather

76. The Committee took note of the discussion of the Subcommittee under the item on space weather, as reflected in the report of the Subcommittee (A/AC.105/1065, paras. 149-157).

77. The Committee noted that the agenda item on space weather allowed member States of the Committee and international organizations having permanent observer status with the Committee to exchange views on national, regional and international activities related to space weather science and research with a view to promoting greater international cooperation in that area.

78. The Committee noted with satisfaction that the expert meeting on improving space weather forecasting in the next decade, held on the margins of the fifty-first session of the Scientific and Technical Subcommittee, had brought together 42 international scientists currently working in space weather research from 21 countries to discuss the paths for improvement of space weather forecasting during the next decade.

79. The Committee endorsed the recommendation of the Scientific and Technical Subcommittee at its fifty-first session to set up an expert group with a rapporteur under the agenda item of the Scientific and Technical Subcommittee on space weather, drawing on the best practices of the work of expert group C on space weather of the Working Group on the Long-term Sustainability of Outer Space Activities, with a programme of work to be considered at the fifty-second session, in 2015 (A/AC.105/1065, annex I, para. 10). The Committee noted that under the leadership of Canada, the programme of work of the newly established expert group would be presented to the Subcommittee at its next session, in 2015. It was noted that the objective of that expert group would be to take stock of relevant technology, information and observation systems around the world and to propose recommendations, including areas for future study. The Committee further noted that no Secretariat services would be required for the expert group.

80. The Committee noted that the International Centre for Space Weather Science and Education (ICSWSE), based at Kyushu University of Japan, continued its support for space weather research, including the operation of a Magnetic Data Acquisition System (MAGDAS) global network of magnetometers, and space weather education, including the implementation of MAGDAS schools for capacity-building. It was also noted that the International Space Weather Initiative newsletter continued to be published by ICSWSE.

81. The Committee welcomed the upcoming United Nations/Japan workshop on science and data products from International Space Weather Initiative instruments, scheduled to take place in March 2015, to be hosted by ICSWSE on behalf of the Government of Japan.

82. The Committee noted that the National Institute of Information and Communications Technology (NICT) of Japan, serving as the regional warning centre of the International Space Environment Service (ISES), continued to disseminate space weather information. It was also noted that NICT had established a ground-based observation network, the South-East Asia Low-Latitude Ionospheric Network (SEALION), for monitoring and forecasting equatorial ionospheric disturbances.

83. The Committee noted that collaborative activities of the Asia-Oceania Space Weather Alliance (AOSWA), in Tokyo, had been conducted in the Asia-Oceania region since 2011, and that the Alliance consisted of 26 institutes from 13 countries.

84. The Committee noted the establishment in China of a space environment monitoring network and space weather forecasting system to provide early warning for significant disastrous space weather events and services for the safety of space assets.

8. Near-Earth objects

85. The Committee took note of the discussion of the Subcommittee under the item on near-Earth objects, as reflected in the report of the Subcommittee (A/AC.105/1065, paras. 158-173).

86. The Committee noted that in its resolution 68/75, the General Assembly had welcomed with satisfaction the recommendations for an international response to the near-Earth object (NEO) impact threat as contained in document A/AC.105/1038, annex III, paragraphs 11-14.

87. The Committee recalled that at the fiftieth session of the Subcommittee, its Working Group on Near-Earth Objects had made recommendations to the effect that:

(a) An international asteroid warning network (IAWN), open to contributions by a broad spectrum of organizations, should be established by linking together the institutions that were already performing, to the extent possible, the necessary functions;

(b) A space mission planning advisory group (SMPAG) should be established by States Members of the United Nations that have space agencies.

88. The Committee noted that the Action Team on Near-Earth Objects should assist in the establishment of IAWN and SMPAG. Once established, IAWN and SMPAG should report to the Subcommittee on their work on an annual basis.

89. The Committee noted that the Action Team had met on 11 June 2014 on the margins of the fifty-seventh session of the Committee to plan future work on the establishment of IAWN and to make preparations for the second meeting of SMPAG, to be held on 12 and 13 June 2014.

90. The Committee was informed that the first meeting of the ad hoc steering committee of IAWN had been hosted by the Minor Planet Center at Cambridge, United States, on 13 and 14 January 2014. At that meeting, the core membership of the ad hoc steering committee had been established (A/AC.105/1065, para. 171). Members of the ad hoc steering committee also recognized that there was a need to encourage additional participation in IAWN through the recruitment of other organizations that could contribute to the efforts of the network.

91. The Committee was also informed that a draft letter of intent to participate in IAWN had been distributed to members of the Action Team during its meeting on 11 June 2014, with a request for institutions to communicate to the ad hoc steering committee of IAWN their intention to participate in the work of the network.

92. The Committee was further informed that the Action Team, in collaboration with the National Aeronautics and Space Administration (NASA) and SWF, would organize a workshop on communication strategies regarding NEO impact hazards on 9 and 10 September 2014 at Broomfield, Colorado, United States.

93. The Committee was informed that ESA had hosted the first meeting of SMPAG at its European Space Operations Centre, Darmstadt, Germany, on 6 and 7 February 2014 (A/AC.105/1065, para. 172). At that meeting it had been noted that the primary purpose of SMPAG was to prepare for an international response to an NEO threat. The group should include representatives of spacefaring nations and lay out the framework, timeline and options for initiating and executing space mission response activities.

94. The Committee was also informed that at the second meeting of SMPAG, held on 12 and 13 June 2014, on the margins of its fifty-seventh session the following had been achieved:

(a) The meeting had finalized the draft terms of reference for SMPAG and agreed on a version considered final, pending confirmation by legal experts of the member organizations;

(b) Presentations on current activities related to planetary defence had been made by the Centre national d'etudes spatiales (CNES) of France, DLR, ESA, the Japan Aerospace Exploration Agency (JAXA), the UK Space Agency and NASA;

(c) Letters confirming participation in SMPAG and nominating delegation members and heads of delegation, as members of the steering committee, had been received by the interim Chair of SMPAG. Additional letters of confirmation were expected;

(d) ESA had been formally and unanimously elected to the Chair of SMPAG for the next two years;

(e) The need for transparency and open communication had been emphasized. Consequently, it was decided to accept observers with expertise in fields relevant to the topic of planetary defence at the meetings of SMPAG;

(f) A draft task list had been identified, from which a workplan document will be produced. It had been agreed to assign task leaders to coordinate the task activities and the production of a report. Some members had already volunteered to be task leaders;

(g) It had been agreed that the next SMPAG steering committee meeting would take place on the margins of the fifty-second session of the Scientific and Technical Subcommittee and that the next full SMPAG meeting would take place in Frascati, Italy, on 9 and 10 April 2015 just before the 2015 Planetary Defence Conference.

9. Use of nuclear power sources in outer space

95. The Committee took note of the discussion of the Subcommittee under the item on the use of nuclear power sources in outer space, as reflected in the report of the Subcommittee (A/AC.105/1065, paras. 174-187).

96. The Committee endorsed the decisions and recommendations of the Subcommittee and the Working Group on the Use of Nuclear Power Sources in Outer Space, reconvened under the chairmanship of Sam A. Harbison (United Kingdom) (A/AC.105/1065, para. 187, and annex II, para. 9).

97. The Committee noted with satisfaction the work of the Working Group on the Use of Nuclear Power Sources in Outer Space under its extended multi-year workplan.

98. The view was expressed that the Working Group on Nuclear Power Sources should work in conjunction with the Working Group on the Long-term Sustainability of Outer Space Activities of the Subcommittee.

99. The view was expressed that encouraging national implementation of the Safety Framework for Nuclear Power Source Applications should remain a high priority of the Subcommittee.

100. Some delegations expressed the view that in order to ensure the safe use of nuclear power sources, it was important that space actors with proven capabilities in this field should make available information and know-how on measures taken to ensure the safety of space objects using nuclear power sources.

101. Some delegations expressed the view that it was exclusively States, irrespective of their level of social, economic, scientific or technical development, that had an obligation to engage in the regulatory process associated with the use of nuclear power sources in outer space and that the matter concerned all humanity. Those delegations were of the view that Governments bore international responsibility for national activities involving the use of nuclear power sources in outer space conducted by governmental and non-governmental organizations and that such activities must be beneficial, not detrimental, to humanity.

102. Some delegations expressed the view that more consideration should be given to the use of nuclear power sources in terrestrial orbits in order to address the problem of potential collisions of nuclear power source objects in orbit, as well as to their accidental re-entry into the Earth's atmosphere. Those delegations were of the view that more attention should be given to that matter through adequate strategies, long-term planning, regulations and the promotion of binding standards, as well as the Safety Framework for Nuclear Power Source Applications in Outer Space.

10. Long-term sustainability of outer space activities

103. The Committee took note of the discussion of the Subcommittee under the item on the long-term sustainability of outer space activities, as reflected in the report of the Subcommittee (A/AC.105/1065, paras. 188-222).

104. The Committee endorsed the recommendations and decisions on the item made by the Subcommittee and the Working Group on the Long-term Sustainability of Outer Space Activities, reconvened under the chairmanship of Peter Martinez (South Africa) (A/AC.105/1065, para. 222, and annex III, paras. 12, 17 and 20).

105. The Committee had before it a proposal for a draft report and a preliminary set of draft guidelines of the Working Group (A/AC.105/C.1/L.339), which had been previously made available to delegations at the fifty-first session of the Scientific and Technical Subcommittee; a working paper submitted by the Russian Federation entitled "Long-term sustainability of outer space activities (basic elements of the concept of establishing a unified centre for information on near-Earth space monitoring under the auspices of the United Nations and the most topical aspects of the subject matter" (A/AC.105/L.290); the report of the Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities (A/68/189); General Assembly resolution A/68/50, entitled "Transparency and confidence-building measures in outer space activities"; a proposal by the Chair of the Working Group for the consolidation of the set of draft guidelines on the long-term sustainability of outer space activities (A/AC.105/2014/CRP.5); suggested amendments to the proposal for the report and draft set of guidelines contained in A/AC.105/C.1/L.339, submitted by Pakistan (A/AC.105/2014/CRP.12); the working report of Expert Group B (A/AC.105/2014/CRP.14); proposed amendments to the proposal for the consolidation of the set of draft guidelines, submitted by the Bolivarian Republic of Venezuela (A/AC.105/2014/CRP.16); and a commentary on and proposed amendments to the proposal for the consolidation of the set of draft guidelines, submitted by the Netherlands (A/AC.105/2014/CRP.22).

106. The Committee welcomed the progress made under the agenda item within the Working Group, and recalled that expert groups A, C and D had finalized their

working reports at the fifty-first session of the Scientific and Technical Subcommittee.

107. The Committee also recalled that expert group B had met on the margins of the current session and noted with appreciation that its working report had now been finalized.

108. The Committee thanked the co-chairs of the four expert groups and all the experts who had participated in the meeting for their dedicated work.

109. The Committee noted that in accordance with its agreement at the fifty-sixth session, the Chair of the Working Group had informed the Legal Subcommittee at its fifty-third session of the progress achieved by the Working Group in the period leading up to and during the fifty-first session of the Subcommittee.

110. The Committee noted with appreciation the proposal by the Chair of the Working Group for the consolidation of the set of draft guidelines, prepared in accordance with the agreement of the Scientific and Technical Subcommittee.

111. The Committee noted that the Working Group had met during the current session of the Committee, with interpretation services.

112. The Committee also noted that informal consultations had been held by the Chair with interested delegations during the current session, and that during those consultations, delegations had put forward proposals for amendments to the proposal by the Chair of the Working Group for the consolidation of the set of draft guidelines, and that some delegations had also put forward proposals for new guidelines. All proposals had then been made available to the Working Group in a non-paper by the Chair, as a working aid to assist delegations in considering the further development of the set of draft guidelines.

113. The Committee noted that in accordance with the agreement reached by the Working Group at the fifty-first session of the Scientific and Technical Subcommittee, the Working Group had discussed the findings in the report of the Group of Governmental Experts on Transparency and Confidence-building Measures in Outer Space Activities (A/68/189), with a view to identifying interlinkages in the recommendations contained in that report and in the work under way in the Working Group. The Committee further noted that such interlinkages included information exchanges and notifications on outer space activities, registration of space objects, information exchanges relating to forecasting natural hazards in outer space, and international cooperation for capacity-building, and that a number of draft guidelines of the Working Group currently addressed those topics.

114. Some delegations expressed the view that the proposal by the Chair of the Working Group for the consolidation of the set of draft guidelines constituted an important step forward in the preparation of a draft set of guidelines for the Working Group.

115. Some delegations expressed the view that, while the proposal by the Chair of the Working Group for the consolidation of the set of draft guidelines was a step in the right direction, it was necessary to objectively analyse the results attained and that further discussions and constructive efforts were necessary in order to resolve issues that remained outside the current guidelines.

116. The Committee noted the proposal by the Russian Federation contained in document A/AC.105/L.290, which included a proposal for establishing a unified Centre for Information on Near-Earth Space Monitoring under the auspices of the United Nations.

117. The view was expressed that there were no internationally agreed procedures of assignment of international designations to space launches and space objects, and that the Office for Outer Space Affairs could organize consultations on the development of a new international system for the assignment of international designations.

118. Some delegations expressed the view that it was necessary to allow more time for the consideration of the new proposed guidelines, in order to develop an understanding of the concepts and elements they contained.

119. Some delegations expressed the view that the method of work of the Working Group, setting clear objectives to be achieved within set time frames and utilizing expert groups, had proved to be an effective and efficient way for progressing in its work.

120. Some delegations expressed the view that too much emphasis had been put on the work in the expert groups and that discussions should be carried out at the Working Group level, with interpretations services.

121. Some delegations expressed the view that the interests of emerging space nations and developing countries should be adequately reflected in the set of guidelines.

122. Some delegations expressed the view that the set of guidelines should include guidance relevant to small satellites and their operators.

123. The view was expressed that the language of the guidelines should not be streamlined and simplified to the extent that their substance no longer offered practical solutions to real problems relating to the long-term sustainability of outer space activities.

124. The view was expressed that the use of nuclear power sources in outer space should also be considered with regard to implications for the safe and sustainable use of outer space, and that there should be interaction between the Working Group on the Long-term Sustainability of Outer Space Activities and the Working Group on the Use of Nuclear Power Sources in Outer Space.

125. The view was expressed that the draft set of guidelines contained a number of principles that were already reflected in other international instruments, and that the Working Group should consider this in its discussions.

126. The view was expressed that, certain elements of the long-term sustainability of outer space activities, such as space debris mitigation and active debris removal, should also be considered by the Legal Subcommittee.

127. The view was expressed that, while the set of guidelines would be voluntary in nature, States choosing to implement them could also ensure the compliance of non-governmental organizations with the guidelines by enacting national space legislation.

128. The Committee agreed to extend the workplan of the Working Group on the Long-term Sustainability of Outer Space Activities [...].

129. The Committee noted that in accordance with the agreement reached by the Working Group at the fifty-first session of the Scientific and Technical Subcommittee, the Chair of the Working Group would prepare a draft report of the Working Group and an updated set of draft guidelines, incorporating the views expressed and inputs received during the current session, for the fifty-second session of the Scientific and Technical Subcommittee, in 2015, and that that report would be made available to delegations in the six official languages of the United Nations before the start of that session.

130. The Committee agreed that in developing the draft report of the Working Group and the updated set of guidelines, the Chair would consult a translation and terminology reference group, consisting of the co-chairs of the four expert groups and first-language speakers of the six official United Nations languages, in order to identify and address questions relating specifically to the translation of and the use of terminology in the set of draft guidelines.

11. Examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries, without prejudice to the role of the International Telecommunication Union

131. The Committee took note of the discussion of the Subcommittee under the item on the examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries, without prejudice to the role of ITU, as reflected in the report of the Subcommittee (A/AC.105/1065, paras. 223-230).

132. Some delegations expressed the view that the geostationary orbit was a limited natural resource that was at risk of becoming saturated, thereby threatening the sustainability of outer space activities in that environment; that its exploitation should be rationalized; and that it should be made available to all States, under equitable conditions, irrespective of their current technical capabilities, taking into particular account the needs of developing countries and the geographical location of certain countries. Those delegations were also of the view that it was important to use the geostationary orbit in compliance with international law, in accordance with the decisions of ITU and within the legal framework established in the relevant United Nations treaties.

133. Some delegations expressed the view that the geostationary orbit provided unique potential for access to communications and information, in particular for assisting developing countries in implementing social programmes and educational projects and for providing medical assistance.

12. Draft provisional agenda for the fifty-second session of the Scientific and Technical Subcommittee

134. The Committee took note of the discussion of the Subcommittee under the item on the draft provisional agenda for the fifty-second session of the Scientific and Technical Subcommittee, as reflected in the report of the Subcommittee (A/AC.105/1065, paras. 231-234).

135. The Committee endorsed the recommendations and decisions on the item made by the Subcommittee and its Working Group of the Whole (A/AC.105/1065, paras. 233-234, and annex I, paras. 8-10).

136. On the basis of the deliberations of the Subcommittee at its fifty-first session, the Committee agreed that the following items should be considered by the Subcommittee at its fifty-second session:

1. General exchange of views and introduction of reports submitted on national activities.
2. United Nations Programme on Space Applications.
3. Space technology for socioeconomic development in the context of the United Nations Conference on Sustainable Development and the post-2015 development agenda.
4. Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment.
5. Space debris.
6. Space-system-based disaster management support.
7. Recent developments in global navigation satellite systems.
8. Space weather.
9. Near-Earth objects.
10. Use of nuclear power sources in outer space.

    (Work for 2015 as reflected in the extended multi-year workplan of the Working Group (see A/AC.105/1065, para. 187 and annex II, para. 9))

11. Long-term sustainability of outer space activities.

    [[…]]

12. Examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries, without prejudice to the role of the International Telecommunication Union.

    (Single issue/item for discussion)

13. Draft provisional agenda for the fifty-third session of the Scientific and Technical Subcommittee, including identification of subjects to be dealt with as single issues/items for discussion or under multi-year workplans.

137. The Committee agreed that the Working Group of the Whole, the Working Group on the Use of Nuclear Power Sources in Outer Space and the Working Group on the Long-term Sustainability of Outer Space Activities should be reconvened at the fifty-second session of the Scientific and Technical Subcommittee.

138. The Committee agreed that the topic for the symposium to be organized in 2015 by the Committee on Space Research, in accordance with the agreement reached by the Subcommittee at its forty-fourth session, in 2007 (A/AC.105/890, annex I, para. 24), should be "Measuring the universe: looking back in time with modern astronomy".